Diet high in processed meat linked to increased diabetes risk in populations with high diabetes rate

February 3 2012, By Leila Gray

(Medical Xpress) -- Diabetes risk is increased in men and women who eat a diet that is high in processed meats, according to a study published online this week in the American Journal of Clinical Nutrition. Processed meats include hot dogs, lunch meat, sausages and canned meats.

The link to type 2 diabetes was even greater for those who regularly ate canned meat. In this study, there was no evidence that eating unprocessed red meat increased the risk of diabetes.

The study was performed among specific tribes of American Indians and the results show a relationship between intake of processed meat and increased risk of type 2 diabetes.

The research team was led by Dr. Amanda Mae Fretts, an American Indian epidemiologist (Mi'kmaq) and a senior research fellow in the University of Washington Department of Medicine. The senior author of the paper is Dr. David S. Siscovick, professor of medicine and of epidemiology, co-director of the UW Cardiovascular Health Research Unit, and an investigator at the UW Clinical Nutrition Research Unit.

The finding that a major component of the diet among this group of American Indians – processed meats – is related to the development of diabetes in this population, Fretts said, suggests a potential dietary target

for interventions to prevent diabetes in American Indians, and the population at large.

Many rural American Indians live on reservations where it is difficult to obtain healthful foods, a likely scenario for many residents of rural America at large. Without access to markets with adequate food choices, many people rely on food from local convenience stores, including canned meat.

Fretts, Siscovick and their research team examined the diets and the development of diabetes among American Indians in the Strong Heart Family Study. This population-based prospective study examines risk factors for heart disease and metabolic diseases, like obesity and diabetes, among 13 American Indians tribes in Arizona, North Dakota, South Dakota and Oklahoma. The 2,001 participants, with a median age of 35 at the start of the study, had two examinations over eight years, the first between 2001-2003 and the second between 2007-2009.

The researchers learned that more than 68.3 percent of the participants ate more than two servings of processed meat a week. Less than 1 percent reported never consuming any processed meat during the past year. Participants who ate processed meats at least twice a week had a 63 percent higher risk of diabetes compared to participants who ate processed meat less than twice a month.

Participants who reported eating canned meat at least twice a week had double the risk of diabetes, compared to those who reported never consuming canned meat. The researchers noted that, unlike canned meat, most other processed meats come in a choice of lean and non-lean meats, such as turkey or beef hotdogs, turkey breast or bologna lunch meat, or turkey or beef sausage.

The researchers noted that several biological and sociological factors

might explain their findings. Processed meats are rich in additives and preservatives, such as sodium nitrate. Processed meats also contain high amounts of advanced glycation end products, substances formed during the heating and processing of meats that influence inflammation and oxidative stress, both of which are risk factors for diabetes.

The researchers also note that disadvantaged participants who rely on canned meats may have other, unmeasured lifestyle factors, such as inability to comply with medical advice, that may contribute to the development of diabetes.

More information: Read the AJCN article: www.ajcn.org/content/early/201 … .111.029942.full.pdf

Provided by University of Washington

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